The effect of questions used by psychiatrists on therapeutic alliance and adherence

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Abstract

Background
Psychiatrist questions are the mechanism for achieving clinical objectives and managing the formation of a therapeutic alliance - consistently associated with patient adherence. No research has examined the nature of this relationship and the different practices used in psychiatry. Questions are typically defined in binary terms e.g. 'open' vs 'closed' that may have limited application in practice.

Aims
To undertake a detailed examination of the types of questions psychiatrists ask patients and explore their association with the therapeutic alliance and patient adherence.

Method
A coding protocol was developed to classify questions from 134 outpatient consultations, predominantly by syntactic form. Bivariate correlations with measures of patient adherence and the therapeutic alliance (psychiatrist-rated) were examined and assessed using Generalised Estimating Equations, adjusting for patient symptoms, psychiatrist ID and amount of speech.

Results
Psychiatrists used a small subset (4/10) of question types regularly 1) yes/no auxiliary questions 2) wh questions 3) declarative questions and 4) tag questions. Only declarative questions predicted better adherence and perceptions of the therapeutic relationship. Conversely, wh questions - associated with positive symptoms – predicted poorer perceptions of the therapeutic relationship. Declarative questions were frequently used to propose an understanding of patients' experiences, in particular their emotional salience for the patient.

Conclusions
A more granular definition of questioning practices is necessary to improve communication in psychiatry. The use of declarative questions may enhance the alliance and adherence - or index their manifestation in talk e.g. better mutual understanding. The function of 'so-prefaced' declaratives, also found in psychotherapy, are more nuanced than negatively connotated 'leading' questions. Hearable as displays of empathy, they attend closely to patient experience, while balancing the tasks of assessment and treatment.

Declaration of interest
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1 Introduction

Psychiatry is not conceivable without clinician questions. They are the mechanism for achieving clinical objectives: history taking, reviewing symptoms and deducing diagnostic hypotheses. Questioning thereby also manages the formation of a therapeutic alliance, the benefits of which include concordant treatment decisions and patient adherence.[1] Developing evidence-based interviewing techniques to improve these outcomes is crucial, particularly in the case of schizophrenia where psychotic symptoms may problematise interaction.[2] A conceptual issue hinders this is practice - there is no definitive model of 'good' communication.[3] Instead, it is viewed more generically through the ideology of 'patient-centredness' i.e. accounting for patients' psychosocial context, preference and experience. While questions are the mode for eliciting this experience, advice in psychiatry textbooks is limited and generalised e.g. 'in general try to use open questions rather than leading questions or closed questions'.[4] In practice, 'open' and 'closed' categories encompass numerous linguistic question types, each of which may have different interactional consequences.[5] No research to date has examined the *actual* questions - by a sensitive, utilitarian classification - that psychiatrists deploy in clinical encounters and *how* they are linked to the therapeutic alliance and treatment adherence. In order to specify training and improve these outcomes, we must first explore two research questions, the aim of this study:

1) What types of questions do psychiatrists ask patients in routine consultations?
2) Do particular question types predict better therapeutic alliances and treatment adherence?

2 Methods

2.1 Data

Data was drawn from an MRC study examining clinical interaction in psychosis[6], collected between 2006 and 2008. 36 psychiatrists from outpatient and assertive outreach clinics across 3 centres (one urban, one semi-urban and one rural) were randomly selected, 31 consented (86%). Patients assigned to clinicians who met Diagnostic and Statistical Manual – IV[7] criteria for schizophrenia or schizoaffective disorder were also asked to participate. Of 579 eligible consecutive attenders, 188 did not attend their appointment, 42 were not approached (for clinical – deemed too unwell - or logistical reasons - overlapping appointments) and 211 declined participation. Written informed consent was obtained from 138 (40%) of those

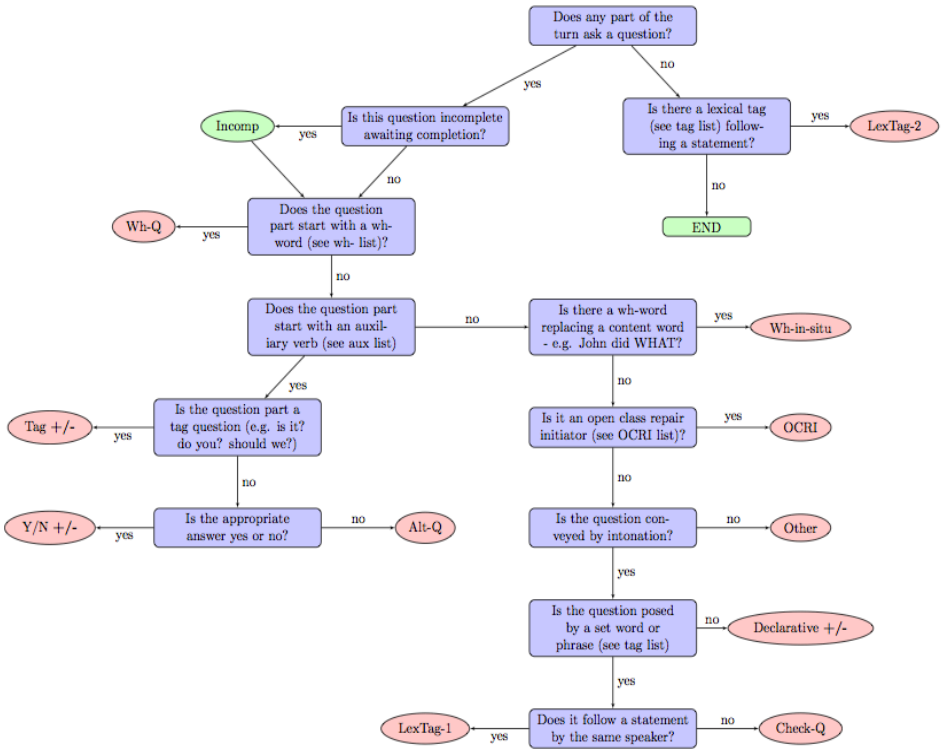
invited, following which their consultations were audio-visually recorded. 4 encounters were excluded due to inadequate recording quality. Verbal dialogue was transcribed verbatim: the final set of 134 transcripts formed our dataset.

2.2 Question coding

2.2.1 Approach to question classification

A standardised protocol (Figure 1) was developed and piloted collaboratively by a team with experience in linguistics (CH) and psychiatric communication (LT, RM). Regular meetings facilitated the refinement of the protocol - applied by all team members to transcripts of video-recorded consultations in an iterative piloting process. The resulting coding scheme allowed an exhaustive classification of questions within each transcript. Question taxonomies (that move beyond an 'open' vs 'closed' conceptualisation) vary according to the accepted meaning of a question itself[8], broadly: syntactically (by form), semantically (by meaning) or pragmatically (by function). Based on examination of the transcripts, the current approach a combination of these classifications to identify and distinguish all items of interest. Where possible, questions are identified by their syntactic form. However, although there are two types of sentence forms that constitute syntactic questions in English[9] – starting the sentence with a wh-word (see section 2) below), and swapping the order of the sentence's subject and auxiliary verb (so called subject-auxiliary inversion - see section 1) below), these are by no means the only ways that questions may be asked. For example, specific lexical items may be commonly used as and taken to be questions[10] (e.g. pardon?, see sections 8) and 10)) and sentences that are syntactically identical in form to non-interrogatives may be used and identified as questions e.g by their rising (questioning) intonation (see section 3) below). The classification sought to identify all of these question types.

Figure 1 Questions coding protocol



2.2.2 Question categories

The complete coding protocol (Figure 1) was constructed to be usable without specific knowledge of linguistics. Each candidate utterance is tested against a hierarchy of yes/no format questions, formulated to be as simple as possible. A process of sequential elimination thereby identifies the linguistic type of any question, and this process is repeated on the utterance until no further questions are identified. There are 10 possible categories, shown in Table 1, with an example from the data and definitions below.

Table 1. 10 categories of question types

Question type	Example from data
1) Yes/no questions	Do you ever feel someone is controlling your mind?
2) Wh questions	Where was that done?
3) Declarative questions	So you feel a bit anxious?
4) Tag questions	You're on 10mg of olanzapine, **aren't you?**
5) Lexical tags	I'll write a letter to your GP, **okay?**
6) Incomplete questions	Your keyworker is?
7) Alternative questions	Do you feel better having stopped it or worse?
8) Check questions	Yeah?
9) Wh-in-situ	He did what?
10) Open class repair initiators	Pardon?

1) Yes/no questions (Y/N Qs)

Y/N Qs are one of the class of 'closed' questions because their expected answer is yes or no.[11] They are syntactically identifiable with an auxiliary verb in the first position of the sentence, followed by the subject. Auxiliary verbs often express distinctions of tense, aspect or mood and include *do, can, will, have, did.*

e.g. *did you really believe it at the time? , have you asked your GP about that? , will you think about reducing your depot?*

2) Wh-questions (Wh Qs)

Wh-questions have a question word in the first position e.g. *who, what, when, why* or *how*. Accordingly, they elicit information on a state of affairs or the property of an event. Wh-questions are considered to be 'open' questions because they do not project a specific response.

e.g. *how does that make you feel?, what do you mean?, who is your keyworker?*

3) Declarative questions

Declarative questions have the syntax of a declarative sentence.[11] A rising intonational contour is likely to index recognition of declaratives as questions[1213] i.e. requiring (dis)confirmation from the patient. Questioning intonation was annotated in transcripts, thus declarative sentences designed as questions denoted by a '?' in the transcripts were included. Coders also looked to the next turn (the patient response) to see if it had indeed been understood as question. Declarative questions are considered one class of 'closed' question because they invite yes/no type responses.[14]

e.g. *you feel happy about that?, you're still on the same medication?,sleeping okay?*

4) Tag questions

A tag question transforms a declarative statement or imperative into a question by adding an interrogative fragment (the 'tag') i.e. an auxiliary verb followed by a pronoun e.g. *"isn't it?", "would he?", "do you?"*. Like Y/N Qs and declaratives, tag questions can be seen as inviting confirmation/disconfirmation from the patient, thus are another class of 'closed' question.

e.g. *and you're on 20mgs now,* ***aren't you?****, you were thinking about working in old peoples' homes,* ***weren't you?***

5) Lexical tags

Lexical tags also invite confirmation/disconfirmation - by adding an interrogative fragment to a statement. A list of words that could act as lexical tags, e.g. *"right?"*, *"okay?"*, *"yeah?"*, *"you know?"* was provided to coders. Lexical tags marked with questioning intonation ('?') were included.

e.g. *we can increase the dose,* ***okay?****, sometimes it can take a bit of adjusting to,* ***you know?***

6) Incomplete questions

Grammatically incomplete sentences that invited a candidate completion by the patient were coded as incomplete questions. They may be initially formulated as another syntactic structure e.g. declarative or alternative question, but invite - through questioning intonation - the patient to complete the missing component.

e.g. *you've got a job or?, you take that at night or?*

7) Alternative questions

Like Y/N Q's, alternative questions have an auxiliary verb in the first position, but present two or more possible answers that the patient may choose.

e.g. *do you prefer morning or afternoon?, are you taking that regularly or just when you need it?*

8) Check Q's

Check questions are synonymous in form with lexical tags, but follow a statement by the patient.

e.g. PAT: *I'd be happy with that*

DOC: *Yeah?*

9) Wh-in-Situ

Wh-in-situ are questions formed by using wh-words, but as a replacement for content words, instead of at the beginning of the sentence (e.g. 1).

1. John went to the zoo →John went where? (cf. Where did John go?)

e.g. *you did that when?, he said what?*

10) Open Class Repair Initiators (OCRIs)

Psychiatrists may draw attention to a problem of hearing or understanding the patients' prior turn using questions that are 'open' class repair initiators i.e. they 'flag' trouble with the patient's prior turn of talk, but leave 'open' the nature of the problem.[10]

e.g. *pardon?, sorry?, what?, huh?.*

2.2.3 Application of the protocol

A software suite designed for the annotation of language data, Dexter Coder,[15] was used to apply the protocol. Four raters performed coding independently. Transcripts consisted of verbal dialogue therefore assigned question codes were based only on surface syntax, intonational cues and patient responses. Inter-rater reliability was found to be good for all question types using Cohen's kappa ranging from k = 0.76 – 0.89.

2.3 Measures and outcomes

Symptoms were assessed immediately post-consultation and psychiatrists rated their view of the therapeutic relationship for each patient. Patient treatment adherence was assessed by psychiatrists in a follow up interview, 6 months after the consultation. Descriptions of the scales used are provided below.

2.3.1 Symptoms

Symptoms were assessed as a potential confounding factor in interviews by researchers not involved in the patient's treatment. The Positive and Negative Syndrome Scale[16] was employed in which 30 items, rated 1-7, assess positive, negative and general symptoms, where higher scores denote greater severity. Positive symptoms indicate a change in the patient's behaviour or thoughts e.g. delusions or sensory hallucinations. Negative symptoms represent a reduction in functioning, including blunted affect, emotional withdrawal and alogia. Subscale scores for positive and negative symptoms ranged from 7 (absent) - 49 (extreme), general symptoms e.g anxiety scores ranged from 16 (absent) - 112 (extreme). Inter-rater reliability using audio-visually recorded interviews was good (Cohen's kappa=0.75).

2.3.2 Therapeutic alliance

Psychiatrist perceptions of the therapeutic alliance were assessed post-consultation using the Helping Alliance Scale.[17] 5 items were rated 1-10 on various interpersonal variables including

mutual understanding about providing necessary treatment and rapport with the patient. Ratings for individual items were combined to create a single value. A lower score represented a poorer therapeutic relationship.

2.3.3 Adherence to treatment

Mean percentage adherence, grouped in clusters, as recommended by Velligan et al[18] was assessed six months after the consultation, by the patient's psychiatrist. Psychiatrists used collateral information to assess adherence in 50% of cases. In 56% of these cases, this was attendance for depot injection, supervised drug intake or blood tests. In 44%, this was from others involved in the patient's care (e.g. pharmacist, general practitioner, family member).

Adherence to (i) treatment in general (i.e. the percentage of occasions that scheduled appointments were kept and non-medication recommendations were followed) and (ii) medication (i.e. the percentage of medication taken) was rated separately on a three point scale i.e. >75% (rating=1), 25-75% (rating=2), and <25% (rating=3).[19] The 2 scores were summed to yield a total adherence score ranging from 2 to 6, with a lower score indicating better adherence.

2.4 Statistical analyses

Statistical analyses were conducted using SPSS 18.0.[20] Descriptive data, including frequencies and means, on questions types were retrieved to address research question 1. To explore research question 2, bivariate correlations between each question type and the primary outcomes were performed, establishing significant associations to motivate further analysis. Initially, correlations with symptoms, a potential confounder, were explored. Coefficients were then obtained for adherence and the therapeutic alliance. The associations between question types (the independent predictors) and the primary outcomes (the dependent variables; adherence, the therapeutic alliance) were further assessed using Generalised Estimating Equations (GEE).

A GEE analysis [2122] was used to account for within-subject correlations. The unit of analysis was the consultation. As each psychiatrist was involved in consultations with multiple patients, psychiatrist ID was entered as a within-subjects factor. This mitigates against the possibility that personal interviewing style may exert a disproportionate effect on the results. In addition, as the correlations (outlined in section 3.3) showed that symptoms and question types were not independent, the three symptom scales were also entered as within-subjects factors.

3 Results

3.1 Sample

Questions were coded in 134 consultations involving 30 psychiatrists. 63% of clinicians were male and 72% were of white ethnic origin. Consultations lasted a mean length of 17.2 (SD 9.1) minutes. 114 patients were recruited from outpatient clinics and 24 from assertive outreach clinics. Table 2 displays patients' socio-demographic and clinical characteristics.

Table 2: Patient Sociodemographic and Clinical Characteristics

Sociodemographic and clinical variable	N	%
Sex		
Male	87	63
Female	47	37
Ethnicity		
White	100	72.5
Employment		
unemployed	86	62.3
employed/student	30	21.7
voluntary	10	7.2
retired	8	5.8

Sociodemographic and clinical variable	Mean	SD
Age	42.2	11.5
Years in contact with psychiatric services	15.6	11.6
No. admissions	3.4	3.4
No. involuntary admissions	1.8	2.6
Symptoms		
PANSS total	54.4	18.6
positive	13.1	5.9
negative	12.5	5.8
general	28.8	9.6

3.2 Types of questions asked by psychiatrists

Psychiatrists asked patients a total of 7570 questions across 134 consultations with a mean of 51.7 (SD= 32.1) questions per consultation. Table 3 depicts specific question types and their mean frequencies in descending order. As length and density of doctor utterances varied between consultations, means were also normalised by calculating values per 1000 words. This controlled for the possibility that higher question frequencies were due to some psychiatrists talking more. Most frequently, psychiatrists asked patients yes/no questions (M=16.5), followed by wh- questions (M=12.7), declarative questions (M=11) and tag questions (M=3.9). Given the relatively low raw frequency of remaining linguistic types, only

these 4 categories were sufficiently frequent enough to include in statistical analyses exploring associations with the therapeutic alliance and adherence.

Table 3: Distribution of psychiatrist question types

Question type	Total	Mean (SD)	Range	Mean per 1000 words	Range
All Questions	7570	51.7 (32.1)	165	35 (16)	93
YN Questions	2362	16.5 (12.2)	57	12 (6)	30
Wh Questions	1700	12.7 (10.4)	63	8.5 (4.8)	23
Declarative questions	1648	11 (8.3)	47	9 (8)	40
Tag Questions	842	3.9 (4.5)	25	2.3 (2.1)	11
Lexical Tags	496	3.7 (5.2)	29	2 (2.2)	11
Incomplete Questions	196	1.5 (1.7)	8	1.1 (1.8)	12
Alt Questions	159	1.2 (1.5)	10	0.8 (1.2)	9
Check Questions	85	0.6 (1.4)	7	0.4 (1.2)	6
What-in-situ	47	0.35 (1)	10	0.2 (0.6)	5
Open Class Repair Initiators	35	0.3 (0.7)	4	0.2 (0.6)	4

3.3 Correlations with outcomes

Bivariate associations between outcomes and the four most frequent question formats were examined using Spearman correlations. Correlation coefficients and values of significance for each measure are reported independently in the following subsections. Statistically significant findings (at the p <.05 level) are described.

3.3.1 Symptoms

As symptom severity in schizophrenia can impact communication, therefore correlations between each question type and the three PANSS subscales (positive, negative, general) were explored. As displayed in Table 4, yes/no questions were positively correlated with negative symptoms and wh-questions were positively correlated with positive symptoms. Neither psychiatrists' declarative nor tag questions were associated with any symptom subtype.

Table 4: Correlations with patient symptoms

PANSS Subscale	YN Q's		Wh Q's		Declaratives		Tag Qs	
SYMPTOM TYPE	*r*	*p*	*r*	*p*	*r*	*P*	*r*	*p*
General	.130	.138	.152	.082	.133	.131	.126	.152
Positive	.054	.052	**.182***	**.037**	.028	.747	.143	.103
Negative	**.182***	**.036**	-.008	.927	-.010	.911	-.027	.760

* Correlation is significant at the p <.05 level

3.3.2 Therapeutic alliance

Correlations between the therapeutic alliance and question types are displayed in Table 5. Only declarative questions were associated with better clinician perceptions of the therapeutic alliance.

Table 5: Correlations with the therapeutic alliance

Measure of relationship/rater	YN Q's		Wh Q's		Declaratives		Tag Qs	
	r	*p*	*r*	*p*	*r*	*p*	*r*	*p*
HAS Total – Psychiatrist	.030	.732	.099	.259	**.282****	**.001**	.036	.681

* Correlation is significant at the p <.05 level

** Correlation is significant at the p <.01 level

3.3.3 Adherence

Only psychiatrists' use of declarative questions was negatively correlated with the adherence scale, i.e., greater use of declarative questions from the psychiatrist was associated with higher patient adherence at follow-up. (See Table 6)

Table 6: Correlations with patient adherence

	YN Q's		Wh Q's		Declaratives		Tag Qs	
	r	*p*	*r*	*p*	*r*	*p*	*r*	*p*
Adherence	.043	.636	.033	.718	**-.204***	**.022**	.137	.126

* Correlation is significant at the p <.05 level

3.4 Between-psychiatrist variation

Given the significant correlations with both therapeutic alliance and adherence, we examined individual variation in psychiatrists' use of declarative questions to consider how clinician identity may influence these outcomes. Table 7 displays the number of consultations and mean declarative questions, normalised per 1000 words, for each psychiatrist. It also captures the range: the minimum and maximum number of declarative questions for each psychiatrist.

Table 7: Distribution of consultations and declarative questions (by word) by psychiatrist

Psychiatrist ID	No. of consultations	Mean declarative questions per 1000 words	Minimum declarative questions per 1000 words	Maximum declaratives question per 1000 words
1	1	0.00	0.00	0.00
2	1	0.55	0.55	0.55
3	7	2.33	0.79	4.92
4	8	2.51	0.62	5.53

5	1	2.74	2.74	2.74
6	6	3.38	1.19	5.74
7	2	3.64	3.64	3.64
8	1	4.09	4.09	4.09
9	8	4.26	0.00	8.09
10	8	4.50	0.00	12.99
11	4	4.73	2.26	6.29
12	1	5.19	5.19	5.19
13	7	5.61	2.62	10.75
14	6	5.61	0.00	22.63
15	7	6.28	1.28	12.04
16	2	6.65	4.08	9.22
17	2	7.18	7.18	7.18
18	4	7.29	4.32	9.67
19	3	8.05	6.83	9.78
20	2	9.60	9.49	9.72
21	2	9.89	7.42	12.36
22	3	10.06	6.21	17.57
23	3	11.35	5.90	14.13
24	7	11.50	6.34	16.81
25	7	12.05	2.97	22.34
26	1	15.61	15.61	15.61
27	20	16.13	2.91	33.71
28	4	16.41	10.93	27.52
29	4	20.61	5.82	32.49
30	2	28.24	19.85	36.63
Total	134			

As can be seen, there was high variation in the number of declaratives used, even in psychiatrists' own consultations. Moreover, plotting the mean declaratives per 1000 words against adherence (Table 8) and therapeutic alliance (Table 9) by psychiatrist showed no apparent clustering effect. However, given that psychiatrists were often involved in multiple patient consultations (a mean of 4.6 per clinician), separate GEE models were fitted to these two outcome variables to account for the potential effect of the psychiatrist on the data.

Table 8: Adherence and declarative questions by psychiatrist

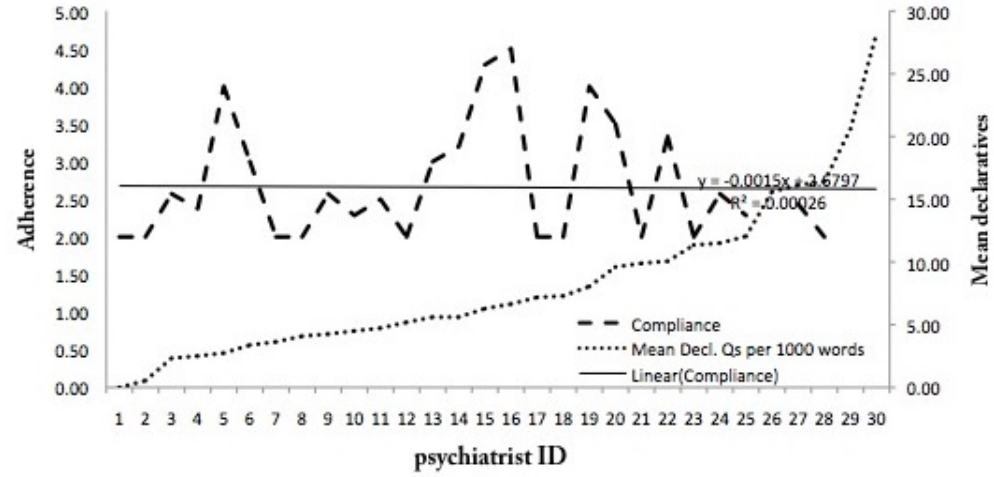
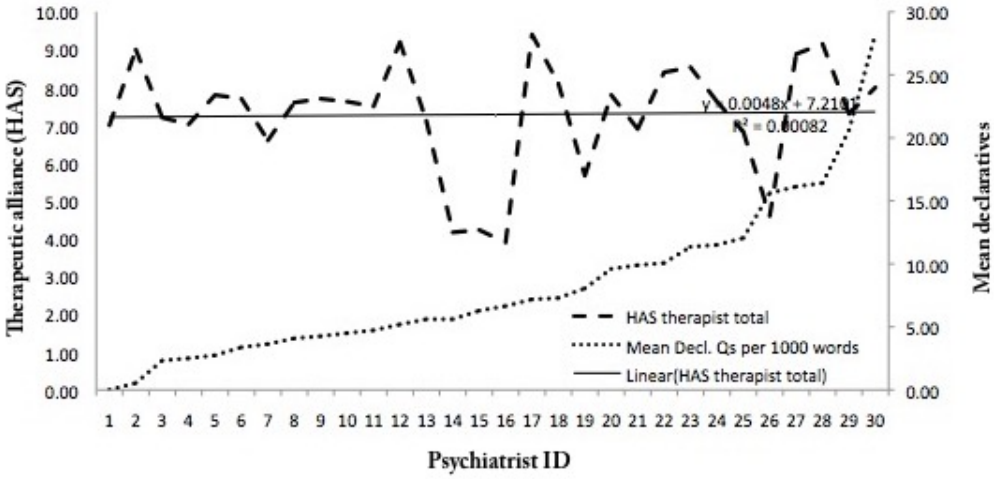


Table 9: Therapeutic alliance and declarative questions by psychiatrist



3.5 Generalised estimating equations

Each GEE used a gamma distribution, with a log link function, and controlled for within-subjects correlations of psychiatrist, and the three symptom scales, using an independent correlation matrix. The independent variables in each case were the proportion of each of the four psychiatrist question types normalised per 1000 words (YN questions, wh-questions declarative questions and tag questions).

3.5.1 Therapeutic alliance

As can be seen from Table 10 below, even when adjusting for psychiatrist ID and patient symptoms, there was a significant main effect on psychiatrists ratings of the therapeutic alliance in terms of the amount of wh-questions and declarative questions that the psychiatrists use (adjusted for the amount of speech). However, these effects are in opposite directions; psychiatrists rate the therapeutic alliance as better if they use more declarative questions, and worse if they use more wh-questions.

Table 10. GEE results

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	1.969	0.0533	1.865	2.074	1363.580	1	<0.001
Wh-questions	**-13.736**	**5.4122**	**-24.344**	**-3.128**	**6.441**	**1**	**0.011**
Tag questions	12.738	9.1144	-5.126	30.602	1.953	1	0.162
YN questions	0.769	3.4540	-6.001	7.539	0.050	1	0.824
Declarative questions	**11.598**	**2.2683**	**7.152**	**16.043**	**26.142**	**1**	**<0.001**

Dependent Variable: HAS therapist total score
Goodness of fit:
Quasi Likelihood under Independence Model Criterion (QIC): 15.400
Corrected Quasi Likelihood under Independence Model Criterion (QICC): 19.378

3.5.2 Adherence

As displayed in Table 11, there was a main effect of declarative questions on adherence, even when controlling for patients symptoms and the identity of the psychiatrist. This suggests that if psychiatrists use more declarative questions in their consultations, patients are more likely to adhere to their treatment, as measured six months after the consultation.

Table 11. GEE results

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test		
			Lower	Upper	Wald Chi-Square	df	Sig.
(Intercept)	.953	.0917	.773	1.133	107.901	1	<0.001
Wh-questions	13.356	8.5193	-3.342	30.053	2.458	1	0.117
Tag questions	4.817	18.3355	-31.120	40.754	.069	1	0.793
YN questions	3.663	6.2080	-8.504	15.831	.348	1	0.555
Declarative questions	-16.404	3.4288	-23.125	-9.684	22.889	1	<0.001

Dependent Variable: Adherence total score
Goodness of fit:
Quasi Likelihood under Independence Model Criterion (QIC): 26.670
Corrected Quasi Likelihood under Independence Model Criterion (QICC): 26.332

3.5.3 Declarative questions in practice: empathic displays of understanding?

Declarative questions were the only question subtype associated with better clinician rated adherence and the therapeutic relationship. This raises the question of what kinds of activity they are performing in practice. On examination of 210 declaratives extracted from a random subset of 30 consultations (with mean frequencies above 3 per 1000 to ensure selected cases contained a sufficient density of questions) three distinctions were immediatly observable. A minority appeared in a 'checklist' form (16/7.6%) (Heritage 2009) – truncated questions that may represent rapid topic shifts following a patient answer to a prior question e.g *'Sleeping okay?'*, *'good appetite?'*. A slightly larger proportion (23/11%) incorporated patients' immediatly prior talk, repeating lexical elements verbatim.[23]

e.g. **PAT** I've had some side effects

DOC You've had some side effects?

The majority of questions however displayed a further level of abstraction - conveying 'inferences or assumptions'[5] about the patients' prior talk (171/81.4%). Over half of these were a homogeneous subgroup of 'so-prefaced' inferences (90/52.6%). Table 12 displays a collection of 20 (22.2%) specific examples.

Table 12. Emotional inferences: 'so-prefaced' declarative questions

Psychiatrist 'So- prefaced' declarative questions
So you are feeling not so well?
So you feel a bit anxious?
So you're quite happy being on your own?
So you're lethargic, you just couldn't be bothered to do these things?
So you feel okay about it?
So that's something you want to switch off from?
So you are quite happy to continue with the Risperidone?
So you're under a lot of pressure at the moment?
So you got a little bit depressed?
So you feel anxious about the amount your eating?
So you have episodes when you feel really bad?
So you you think you're better off?
So you're feeling better in any case?
So the things that you find difficult now are your self confidence?
So but overall you feel better in yourself?
So I think in terms of what we're doing at the moment you are quite satisfied?
So you're not feeling well?
So these have been helpful?
So on the whole from a psychiatric point of view you're very stable?
So you'd be worried about the antidepressant?

As is evident in Table 12, each declarative is prefaced by the 'upshot marker'[24] 'so', following which the psychiatrist invites confirmation of an emotional inference. 'So' indexes inferential

or causal connections with the prior talk (Bolden 2009) and displays the psychiatrist working closely with the patients' contribution. In each example, the clinician produces a display of understanding: he/she 'formulates' the patient's 'feelings' or perspective e.g being 'anxious', 'happy', 'lethargic', 'depressed' or 'under pressure'. Garfinkel and Sacks (1970) first identified the used of such formulations in interaction:

> 'a member may treat some part of the conversation as an occasion to describe that conversation, to explain it, or characterise it or explicate, or translate, or summarise or furnish the gist of it.....that is to say, a member may use some part of the conversation as an occasion to formulate the conversation'. (1970:350)

The formulations in Table 9 characterise the personal salience of the conversation for the patient. Indeed, Table 13 displays an extended data fragment in which the psychiatrist edits the patient's talk to highlight its psychological implications.

Table 13. Data extract

A 'So- prefaced' declarative question in context

01 PAT: It's just that someti:mes in the afternoon I
02 get like you know I get the feeling that it's
03 going to happen to me, I will end up in the hospital.
04 DOC: Okay.
05 PAT: And er
06 DOC: **So you feel a bit anxious?**
07 PAT: Yeah

Here, the psychiatrist uses a declarative question to distil the central theme of a larger stretch of talk concerning the patient's fears about relapse and associated return to an inpatient ward. In line 06, he proposes - and invites confirmation of - a candidate understanding within an emotional frame of relevance i.e. inferring the patient's 'feeling that it's going to happen to me' (lines 02, 03) means he is feeling 'anxious'. Table 14 displays a similar extract.

Table 14. Data extract

A 'So- prefaced' declarative question in context

01 PAT: Yeah I like to chill out in the house Doctor you know, I
02 watch telly and then cook something and then washing and
03 tidy the house up you know
04 DOC: Yeah. **So you're quite happy being on your own?**
05 PAT: I'm quite happy Doctor yeah yeah

The psychiatrist uses a declarative formulation in line 04 to propose an understanding of the patient's stance in relation to how he spends his time alone at home (lines 01-03). His deduction 'you're quite happy being on your own' is distilled from the patient's 'I like to chill out in the house'. Such formulations have been studied extensively in psychotherapy as devices for suggesting 'something implicitly meant by the client'[25] which display understanding, cooperation and engagement, yet simultaneously serve clinical objectives.[26] These intermittent 'summaries' are produced 'in service of therapeutic interpretation' and, in this context, consistent with a psychiatric point of view. Several implications for understanding psychiatric questioning and the direction of future research can be collectively extracted from these findings.

4 Discussion

4.1 Summary of findings

Psychiatrists can use a range of methods to elicit information from patients by varying the structure of their questions. We captured these alternatives in a coding protocol, usable across a variety of medical contexts. There are three main findings from this study, each with applied significance. Despite the different possibilities of question form, psychiatrists used a relatively small subset frequently: 1) yes/no questions (the prevalence of which is consistent with findings in general medicine[27]) 2) wh-questions 3) declarative questions 4) tag questions. While this pattern is of interest in its own right, choice *between* these question types may be consequential for clinical outcomes. Psychiatrists' use of declaratives i.e. statements that invite patient (dis)confirmation (a subclass of 'closed' question), predicted better psychiatrist perceptions of the therapeutic relationship and subsequent patient adherence at 6 months, after adjusting for symptoms, psychiatrist ID and amount of speech. Conversely, psychiatrist wh- ('open') questions, inviting more elaborate responses, correlated with more severe positive symptoms and predicted *worse* psychiatrist perceptions of the patient relationship. The findings counter common-held assumptions regarding the conventional binary distinction between (positive) and closed (negative) of questions often used to construe a model of patient-centred care e.g. using 'open-ended questions to learn about the patient'.[28] Indeed, closer observation of the current data suggests that declarative questions can be deployed to display an *understanding* of patient experience.

4.2 Limitations

This study should be considered in the context of its limitations. Potential inferences regarding the direction of effect on adherence/therapeutic relationship are constrained by the statistical methods used here: correlation cannot determine causality. Moreover, encounters only included patients diagnosed with schizophrenia - we cannot with any certainty extrapolate findings to other mental health populations that may be different communicative needs. The construct validity of the outcomes measured should also be considered. While subjective measures of the therapeutic alliance are well accepted to assess the therapeutic relationship, they are more problematic, albeit heavily relied on[1], when assessing adherence. Provider ratings of adherence may be based on the report of the patient or on a worsening clinical condition, which may be related to failure of the chosen medication to control symptoms[18]. Moreover, doctors' ratings of adherence are frequently related to their perception of clinician-patient agreement.[29]This could go some of the way to explaining why alliance and adherence were both associated with declarative questions. The study also does not account for the fact patients may have had contacts with other health professionals over the 6 month period. While it is the psychiatrist with whom the patient makes treatment decisions, these individuals may also have some influence on adherence behaviour.

Our approach to question coding relied on pre-defined properties of a question's form, supporting reliable inter-rater coding. However, the categories were based predominantly on syntactic structure. This is problematic from some standpoints: what linguistically defines questions as questions, does not necessarily define them as interactional objects - a question without the linguistic form of a question may still accomplish questioning and the form of a question can be used for actions *other* than questioning.[30] If there is no exact one-to-one correspondence between form and action, further explanatory potential may lie in contextual qualitative analyses of questions in-situ.

The current analysis focused on psychiatrist questions. Previously, we found that the more questions patients asked to clarify the psychiatrist's talk, the more adherent they were six months later (McCabe et al. 2013). This raises the question of how psychiatrist questioning impacts on patient questioning, an avenue for further research.

4.3 Clinical implications

The findings suggest a more granular classification than 'closed' vs 'open' is necessary to inform understanding of best questioning practices in psychiatry. Declaratives were the *only* class of closed question - from 6 possible subtypes - to be associated with better alliance and adherence. While often labelled as negatively connotated 'leading' questions[4], this association

– and actual data examples - suggests the function and consequences of declaratives may be more nuanced. Indeed, prior qualitative research of declarative questions in psychotherapy settings aligns with this. By displaying a more 'knowing' stance[5] than other question types, declaratives create an opportunity for patients to confirm psychiatrists' grasp of their state of affairs e.g. 'so you feel a bit anxious?' (Table 8), such that they can function, and be hearable by as, displays of understanding[26], empathy[31] and active listening[32]. Arguably, each of these may be be instrumental to the formation of therapeutic rapport and alliance.

While the objectives and challenges of psychotherapy may be somewhat distinct from psychiatry, this prompts further qualitive research to understand the function of declaratives in psychiatry specifically. In the treatment of schizophrenia, the psychiatrist must balance information gathering with responsivity to patient experience, all the while maintaining an attitude of non-confrontation and non-collusion.[33] When displaying, and inviting confirmation of, how patients might 'feel' on account of their reports, declarative questions may allow clinicians to be sensitive to the emotional aspects of their experiences, while – where appropriate - sustaining a clinically desirable attitude of non-collusion with aspects of *content,* reconciling these sometimes diametrical requirements. Within the context of reviewing a patient's mental state, interviewing patients *without* using this kind of device may appear insensitive and be more characteristic of a stilted checklist approach to questioning. It is interesting that this psychotherapeutic practice is associated with better psychiatrist ratings of the therapeutic alliance. Importantly, clinician ratings of the therapeutic alliance have been found to predict outcomes in psychosis,[34] perhaps reflecting the non-specific factors at play in psychiatry.

The findings here lay out the prospect that training clinicians to in fact ask more declarative questions (or at least certain types), may be one method of *improving* the therapeutic alliance and subsequent adherence. This hypothesis is based on the direction of effect commonly cited in alliance/adherence research: perceptions of the therapeutic relationship, mediated through talk, may influence adherence. However, given this particular pathway of causality cannot be confirmed within the scope of a correlational study, an equally interesting alternative is the polar directionality. Through this lens, declaratives~~,~~ represent one possible index for how positive alliances and/or adherence are *manifest* in interaction (or *less* favourable alliances, as indexed by wh questions). The alliance and adherence may be independent variables with discursive consequences: psychiatrists might more easily achieve, display, and invite confirmation of their, 'understandings' - through declarative questions - with patients who are more adherent and engaged with treatment in the first place.

Whichever interpretation, both highlight the need to consider the degree of shared understanding established in patient-clinician interaction. This is consistent with our earlier study[6]: patient attempts to check understanding (clarifying what the psychiatrist said in a previous turn) was also associated with better adherence. Relatedly, one would expect achieving mutual understanding might be more difficult in symptomatic patients e.g. those experiencing delusions. This could explain why wh-questions – 'open' questions that presuppose less understanding thereby inviting more extensive responses – were associated with symptoms and poorer psychiatrist alliance ratings. Indeed, discussion of psychotic symptoms can cause considerable interactional tension in outpatient encounters.[2] Recognising candidate interactional 'markers' of good relationships, like declarative questions, may be one of the first steps for developing interventions to improve adherence – derived from naturalistic interaction. Crucially, clinician ratings of the therapeutic alliance in psychiatry have been found to predict more distal outcomes.[34] More abstract notions of 'patient centredness' do not easily translate into measurable communication practices, conducive to training and research.

This study underlines the need for specificity and presents a candidate questioning practice for further analysis. Psychotic symptoms are associated with increased risk of suicide[35] and treatment nonadherence accounts for approximately 40% of rehospitalisation in the two years post-discharge from inpatient treatment in schizophrenia[36], incurring substansial clinical and economic burden. Given the ultimate goals of interaction in psychiatric settings are the ameolration of such symptoms and prevention of relapse, the stakes involved in empirically grounded 'good' questioning are very high indeed.

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Contributions

LT, CH and RM were involved in the conception and design of the study. LT and CH coded, analysed and presented the findings. LT drafted the final version of the article and all authors contributed to the revision of intellectual content and approval of the final version.

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References

1 Thompson L, McCabe R. The effect of clinician-patient alliance and communication on treatment adherence in mental health care: a systematic review. *BMC Psychiatry* 2012*;* **12**: 87

2 McCabe R, Heath C, Burns T, Priebe S. Engagement of patients with psychosis in the consultation: a conversation analytic study. *British Medical Journal* 2002; **325**: 1148-1151

3 Priebe S, Dimic S, Wildgrube C, Jankovic J, Cushing A, McCabe R. Good communication in psychiatry: A conceptual review. *European Psychiatry* 2011, **7**: 403-7

4 Burton N. *Psychiatry*. Oxford: Wiley Blackwell, 2010

5 Heritage J. Questioning in medicine. In *Why Do You Ask?: The Function of Questions in Institutional Discourse* (ed AF Freed, S Ehrlich) Oxford University Press, 2009

6 McCabe R, Healey P, Priebe S, Bremner S, Lavelle M, Dodwell D, Laugharne R, Snell A. Shared understanding in psychiatrist-patient communication: association with treatment adherence in schizophrenia. *Patient Education and Counseling*, 2013 http://dx.doi.org/10.1016/j.pec.2013.05.015

7 American Psychiatric Association (APA). Diagnostic and statistical manual of mental disorders (4th ed., text rev.). Washington DC, 2000

8 Groenendijk J, Stokhof M. Questions. In *Handbook of Logic and Language* (ed J van Benthem, A ter Meulen): 1055–124. MIT Press, 1997.

9 Ginzburg J, Sag IA. *Interrogative Investigations*. CLSI publications, 2001

10 Drew P. 'Open' class repair initiators in response to sequential sources of trouble in conversation. *Language and Cognitive Processes*, 1997, **2**: 19-41

11 Heritage J, Clayman S. *Talk in Action: Interactions, Identities and Institutions*. Wiley Blackwell, 2010

12 Stivers T, Rossano RF. (2010) Mobilising response. *Research on Language and Social Interaction,* **43**: 3-31

13 Safarova M, Swerts M. On recognition of Declarative Questions in English. In *Proceedings of Speech Prosody*. Nara, 2004

14 Raymond G. Grammar and social relations: Alternative forms of Yes/No type initiating actions in health visitor interaction. In *"Why Do You Ask?": The Function of Questions in Institutional Discourse* (ed AF Freed, S Ehrlich): 87-107. Oxford University Press, 2010

15 Dexter Coder. *Dexter: Tools for Analysing Language Data*. Dexter Coder, 2011. http://www.dextercoder.org

16 Kay S, Fizbein A, Opfer L. The Positive and Negative Syndrome Scale (PANSS) for Schizophrenia. *Schizophrenia Bulletin*, **13**: 261-1987

17 Priebe S, Gruyters T. The role of the helping alliance in psychiatric community care: A prospective study. *Journal of Nervous and Mental Disease*. **181**: 552-557, 1993

18 Velligan DI, Lam YWF, Glahn DC, Barrett JA, Maples NJ, Ereshefsky L, Miller AL. Defining and assessing adherence to oral anti-psychotics: A review of the literature. *Schizophrenia Bulletin*, **32:** 724-42, 2006

19 Buchanan A. A two-year prospective study of treatment compliance in patients with schizophrenia. Psychological Medicine, **22**:787–97, 1992

20 SPSS I. PASW Statistics 18.0. SPSS Inc, 2009

21 Liang KY, Zeger SL. Longitudinal data analysis using generalised linear models. *Biometrika*, **73**: 13-22, 1986

22 Ballinger GA. Using generalised estimating equations for longitudinal data analysis. *Organisation Research Methods*, **7**: 127-150, 2004

23 Robinson JD, Kevoe-Feldman H. Using full repeats to initiate repair on others' questions. Research on Language and Social Interaction, **43**: 232-259, 2010

24 Schiffrin D. *Discourse Markers*. Cambridge University Press, 1987

25 Bercelli F. et al. Clients' responses to therapists' reinterpretations. In *Conversation Analysis of Psychotherapy* (ed A Perakyla, C Antaki, S Vehvilainen and I Leudar). Cambridge. England; CUP, 2008

26 Antaki, C. Formulations in psychotherapy. In *Conversation Analysis of Psychotherapy* (ed A Perakyla, C Antaki, S Vehvilainen and I Leudar). Cambridge. England; CUP, 2008

27 Roter DL, Hall JA. Health education theory: an application to the process of patient-provider communication. *Health Education Research*, **6**:185-93, 1991

28 Hanyok LA, Hellman DB, Rand C, Zeigelstein RC. Practicing patient centred care: The questions clinically excellent physicians use to get to know their patients as individuals. *Patient*, **5**: 141-145, 2012

29 Phillips LA, Leventhal EA, Leventhal H. Factors associated with the accuracy of physicians' predictions of patient adherence. *Patient Education and Counselling*, **85:** 461-7, 2011

30 Schegloff EA. On some questions and ambiguities in conversation. In *Structures of Social Action* (ed J Maxwell Atkinson, J Heritage): 28-53, Cambridge University Press, 1984

31 Ruusuvuori J. Empathy and sympathy in action: attending to patients' troubles in Finnish homeopathic and general practice consultations. *Social Psychology Quarterley*, **68**: 204-22, 2005

32 Hutchby I. Active listening: formulations and the elicitation of feeling-talk in child counseling. *Research on Language and Social Interaction*, **38**: 303-329, 2005

33 Turkington D, Siddle R. Cognitive therapy for the treatment of delusions. *Advances in Psychiatric Treatment*, **4**: 235-242, 1998

34 Priebe S, Richardson M, Cooney M, Oluwatoyin A, McCabe R. Does the therapeutic relationship predict outcomes of psychiatric treatment in patients with psychosis? A systematic review. *Psychotherapy & Psychosomatics*. **80**:70-77, 2011

35 Palmer BA, Pankratz S, Bostwick J.M. The lifetime risk of suicide in schizophrenia. *Archives of General Psychiatry*, **62**: 247-253, 2005

36 Weiden P, Olfson M. Cost of relapse in schizophrenia. *Schizophrenia Bulletin*, **21**: 419 - 429, 1995